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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,853	02/07/2001	Hiroyuki Fujisaki	202866US0	3374

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EXAMINER

MEDINA SANABRIA, MARIBEL

ART UNIT PAPER NUMBER 5

1754

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/777,853

Applicant(s)

FUJISAKI ET AL.

Examiner

Maribel Medina

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9 and 13-17 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 10-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

**Claim Rejections - 35 USC § 112**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "not greater than about 1% by volume" render the claim indefinite. The term "about" renders the claim indefinite as there is nothing in the specification, to provide any indication as to what range of specific activity is covered by the term "about." (See Amgen, Inc. v. Chugai Pharmaceutical Co., 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991)). See also MPEP 2173.05 (b)

**Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 7, and 13-17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US 5,451,388 (Chen et al).

Chen et al disclose a method for treating a gas stream including at least one non-halogenated carbonaceous compound, comprising the steps of: contacting the gas stream in the presence of oxygen with a first oxidation catalyst in a first catalyst zone, the first oxidation

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catalyst comprising a first catalytic material deposited on a low acidity support material, for catalyzing the oxidation of said non-halogenated compound; followed by contacting the gas stream with a second oxidation catalyst in a second catalyst zone, the second oxidation catalyst comprising a second catalytic material deposited on a high acidity support material (See claim 1). Chen et al disclose that the catalytic material of the first oxidation catalyst comprises at least one platinum group metal, and the low acidity support material comprises at least one metal oxide compound selected from the group consisting of  $\text{SiO}_2$ ,  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{MgO}$ ,  $\text{CaO}$ ,  $\text{La}_2\text{O}_3$ ,  $\text{Y}_2\text{O}_3$ , and tin oxide and the catalytic material of the second oxidation catalyst comprises at least one platinum group metal and the high acidity support material is selected from the group consisting of gamma alumina, delta alumina, theta alumina, transitional forms of alumina, silica-alumina, zeolites and combinations thereof (See claims 4 and 6). Chen et al clearly disclose the catalyst of instant claim 1 and the process of instant claim 7. In regards to instant claim 13, Chan et al clearly disclose in claim 2, that the gas stream comprises at least one compound selected from the group consisting of non-halogenated carbonaceous compounds and at least one halogenated organic compound. In regards to claims 14, 16 and 17, Chan et al disclose in column 11, line 48 to column 12, line 11, various examples of the organic compounds treated which are clearly included in the limitations of the instant claims. In regards to claim 15, Chen et al disclose in column 12, lines 38-45, the concentration of the organic compounds in concentrations not greater than about 1 % by volume. No difference is seen between the instant claimed invention and Chen et al disclosure.

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**Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,451,388 (Chen et al).

Chen et al apply herein as above. Chen et al fail to disclose the ratio of the first and second catalysts and the ratio of the zeolite and metal oxide in the second catalyst. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the optimum ratio range from the first and second catalyst and the ratio of the zeolite and metal oxide in the second catalyst, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

**Allowable Subject Matter**

7. Claims 4-6 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claims 4-6 and 10-12 disclose allowable subject matter. In regards to claims 4 and 10 Chen et al fail to disclose or suggest that the zeolite is ion-exchanged with at least one ionic species selected from the group consisting of those of groups IA and IIA. In regards to claims 5, 6, 11,

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and 12, Chen et al fail to disclose or suggest using an alumina as the metal oxide in the first catalyst, and fails to disclose or suggest that the alumina used in the second catalyst is alumina having a pore size distribution such that, where "a" represents a pore radius in Å at the maximum of the pore radius distribution curve, the accumulated pore volume of pores having radii in the range of  $(a-25)$  Å to  $(a+25)$  Å is at least 65% of the total volume of all the pores, said alumina containing less than 1% by weight of rare earth elements.

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner Maribel Medina. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

**Examiner: Maribel Medina** **Tel: 703-305-1928****Fax: 703-872-9310****September 20, 2002**  
**Gregory J. Silverman**  
**Supervisory Patent Examiner**  
**Technology Center 1700**